

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-4 and 6-13 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejection in view of the amendments and remarks as set forth below.

Allowability of Claims

Applicants note that the Examiner has previously indicated that claim 14 would be allowable if rewritten in independent form. Although Applicants rewrote claim 13 to include the limitation of claim 14 in the previous Amendment and likewise claims 1 and 6 also were amended to include this limitation, the Examiner has not seen fit to allow any of the claims. Applicants submit that these claims are allowable as previously indicated by the Examiner.

Rejection under 35 U.S.C. § 112

Claim 13 stands rejected under 35 U.S.C. § 112, second paragraph as being indefinite. The Examiner objects to the limitation "material pair" in line 1. Applicants submit that this limitation has already been removed from the claim. As can be seen in the previous Amendment, Applicants removed this limitation in rewriting claim 13. Further, even if the limitation were present, it would not be on line one. Accordingly, Applicants submit that this rejection is overcome.

Rejection under 35 U.S.C. § 102

Claims 1, 2, 4-6, 8-10 and 13 stand rejected under 35 U.S.C. § 102 as being anticipated by Itagaki (JP 59-164450). This rejection is respectfully traversed.

The Examiner indicates that the reference teaches an elevator with a hoisting rope 4, a counterweight 6, an elevator car 5, at least one rope pulley 2 coated with a material 9 to increase the co-efficient of friction where the traction sheave forms together with the hoisting rope set and material pair 9, 12 made of different materials.

Applicants submit that the present amended claims are not anticipated by Itagaki. First, Applicants have added the limitations of claims 5 to all three independent claims. This limitation makes it clear that the elevator is still usable when the coating on the surface of the traction sheave has been lost. This goes to the heart of the present invention which designs the fraction sheave to be usable in case of fire or other emergencies where the friction coating has been removed. Applicants submit that this feature is not seen in Itigaki et al.

Applicants wish to point out that the present specification teaches the three different manner of arrangements which allow the hoisting rope to bite into the traction sheave after the coating has been lost. In the first arrangement, the material of the traction sheave is different from the material of the rope so that the rope can more easily bite into the sheave when the coating is removed. In the second arrangement, the bottom of the groove in which the rope sets has a shape which enables it to more easily bite into the sheave. In the third arrangement, the sheave includes a portion which is made of a different material which allows the rope to bite into the sheave more easily.

In the Itigaki reference, the traction sheave 2b includes an insert ring 9 having a high frictional force, which corresponds to the coating of the present application. Between the insert ring 9 and the traction sheave, there is an intermediate layer 10A which is a plastic material of urethane resin. Also groove like pits 12 are installed on the bottom and side parts of the groove which provides a means of escape for air. The Examiner has stated that the traction sheave forms a material pair with the hoisting rope and refers to 9 and 12 as being the different materials. Nine is the friction coating and 12 (actually 10A) is the intermediate material of urethane resin. Moreover, Applicants wish to point out the two materials referred to in the claims are the material of the rope and the material of the traction sheave. Applicants submit that the reference does not describe a material pair of different materials where one of the materials is the rope and one of the materials is the sheave.

Thus, claim 1 includes the statement "the traction sheave forms together with the hoisting rope set a material pair made of different materials". Applicants submit that the reference does not show the traction sheave and hoisting rope, as a material pair made of two different

materials. Further, the claim states that this allows the hoisting rope to bite into the traction sheave after the coating has been lost. The reference does not describe in any fashion what happens after the coating has been lost. Accordingly, Applicants submit that claim 1 clearly defines over reference.

Independent claim 6 includes “the material used in the traction sheave, at least under the coating on the outer rim of the traction sheave is a material that allows the hoisting rope to bite into the material”. The reference does not in any manner describe that the material 10A is a material that allows the hoisting rope to bite into the material. In the present application, this material can be soft steel, aluminum, cast iron, or brass, while in the reference, the layer 10A is a urethane resin. Applicants submit that a urethane resin would not be the type of material which allows the hoisting rope to bite into the material. Thus, Applicants submit that claim 6 is also allowable.

Claims 13, which is the third independent claim, includes the same language as claim 6 and is allowable for the same reason.

Thus, Applicants submit that all three of the independent includes limitations not seen in the reference. While the reference shows a sheave having a high friction layer and another layer between the high friction layer and the sheave, this is not a material of the sheave, and the material does not allow the hoisting rope to bite into the sheave after the coating 9 has been lost. Accordingly, Applicants submit that these claims are allowable.

Claims 2-4, 8-10 and 12 depend from these allowable independent claims and as such are also considered to be allowable. In addition, these claims recite other features that make them additionally allowable. This includes the materials of the coating, the size of the rope, the material of the ropes, some of the shapes of the grooves and the insert beneath the coating on the sheave. Accordingly Applicants, submit that these claims are additionally allowable.

Rejection under 35 U.S.C. § 103

Claims 3 and 12 stand rejected under 35 U.S.C. § 103 as being obvious over Bruns in view of Piech et al (U.S. Patent 6,267,205). This rejection is respectfully traversed.

First it is assumed that the Examiner is mistaken in referring to Bruns rather than Itagaki. It is noted that the Examiner has referred to Itagaki in the discussion of the rejection. Accordingly, it is assumed that the correct statement of the rejection is Itagaki in view of Peich et al.

Applicants, submit that even if Piech et al. describes a rope having this diameter, these claims remain allowable based on their dependency from allowable claim 1.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner either alone or in combination. In view of this, reconsideration of the rejection and allowance of all of the claims are respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application; the Examiner is respectfully requested to contact Robert F. Gnuse, Reg. No. 27,295 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

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Amendment dated January 30, 2008
Reply to Office Action of July 31, 2007

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted

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